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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/593,360	06/14/2000	Dennis W. Crabtree	0110SS: 44500	8364
22929	7590	10/01/2003	EXAMINER	
SUE Z. SHAPER, P.C. 1800 WEST LOOP SOUTH SUITE 750 HOUSTON, TX 77027			KIM, CHRISTOPHER S	
			ART UNIT	PAPER NUMBER
			3752	

DATE MAILED: 10/01/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/593,360

Applicant(s)

CRABTREE ET AL.

Examiner

Christopher S. Kim

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 1-11, 19, 21-38 and 44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-18, 20 and 39-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Amendment filed July 16, 2003 is acknowledged.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not appear to teach a "fixed pressure drop." Even if the pilot valve produces a fixed pressure drop which is dependent on the fluid flow, no "range of preselected fixed pressure drops" is disclosed in the specification.

Claim Rejections - 35 USC § 102

5. Claims 12-18, 39-41 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Klein (4,224,956).

With respect to claims 12-15, Klein discloses a method for proportioning fire fighting foaming concentrate into a variably flowing fire fighting fluid passing through a conduit comprising: adjusting a fire fighting fluid orifice 18; varying a fire fighting foam concentrate orifice 54; supplying fire fighting foam concentrate (column 1, lines 16-28).

With respect to claims 16-17, Klein further discloses a pilot valve 36 and spring 38.

With respect to claims 13 and 18, Klein further discloses a baffle/piston 36.

With respect to claims 39-41 and 43, Klein discloses a method for proportioning foam concentrate comprising: placing pressurized fire fighting foam concentrate in communication with pressurized fire fighting fluid flowing through a conduit (through opening 54); arranging a pilot valve 36. Measuring pressure drop is accomplished since the degree to which opening 54 is opened depends on the pressure drop across element 36.

Claim Rejections - 35 USC § 103

6. Claims 20 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klein (4,224,956).

Klein discloses the limitations of the claimed invention with the exception of the nozzle and the flow rate range.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the valve of Klein as a terminal member (a nozzle) to spray the mixed fluid.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided a flow rate of at least 500 gpm for optimization dependent of operating criteria, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Response to Arguments

7. Applicant's arguments filed July 16, 2003 have been fully considered but they are not persuasive.

In response to applicant's argument that "predetermined" and "preselected" are not disclosed by Klein, the device of Klein inherently has predetermined and preselected functional parameters which are determined by, for example, flow path size, flow path shape, valve shape, valve size, and spring constant. In other words, the pressure drop across the orifice in Klein is **not random**.

Applicant's argues, "This assertion, if it is being made, requires substantiation, since one would assume, for example, that as supply pressure to Klein's device is raised, discharge pressure would rise proportionately. Applicant's argument is not commensurate in scope with the claimed invention. Claim 12 recites, "adjusting a fire fighting fluid orifice in a fire fighting fluid conduit to maintain a predetermined pressure drop across the orifice as fire fighting fluid flow rate through the conduit varies." It's a basic principle that pressure drops with expansion as in the transition from inlet 18 to inside body 12.

In response to applicant's argument that Klein does not teach a targeted pressure drop, applicant's argument is not commensurate in scope with the claimed invention.

In response to applicant's argument that Klein does not teach a constant pressure drop, such does not appear to be a claimed limitation.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (703)

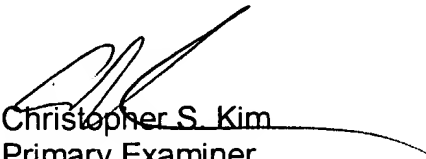
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308-8336. The examiner can normally be reached on Monday - Thursday, 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Y. Mar can be reached on (703) 308-2087. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.



Christopher S. Kim
Primary Examiner
Art Unit 3752

CK